

	City of Casa Grande Development Center Policies & Procedures	Effective Date: February 2, 2015
	Title: Building Plan Submittal Requirements	Date Reviewed: February 2, 2015
		Department of Primary Responsibility: Building Safety
		Policy Number: DC- PP - 013 - 01

The City does a plan review to check for code compliance before issuing a building permit. During the planning stages of a project, we sometimes have several meetings with owners and the design team to discuss code issues and answer questions. After the design is finalized the City does a plan review that, to the best of our ability, identifies code issues to be corrected before the permit is issued and construction starts on the structure.

All plans submitted for review shall have digital copies attached. Minor residential permits may have this requirement waved by the Building Official.

Resubmissions of revised drawings per City comments shall be one complete submission. The applicant may either submit new complete sets of drawings or the corrected pages. IF submitting only the corrected pages applicant must remove and replace these pages in City offices. The city WILL NOT replace pages in ANY plan set.

A complete digital copy of the final City Reviewed Plans is to be submitted before the permit is picked up.

The requirements in this document are a guide and are NOT all inclusive as your design will dictate the plan requirements to show codes compliance of your structure.

Design Professional Required.

The City requires all building plans and their mechanical, electrical, plumbing, fuel gas, or fire protection systems to be prepared by a design professional. The design professional shall be registered under ARS Title 32 and shall affix his official seal and signature to said drawings and specifications for all occupancies.

Detached single-family dwellings are not required to have sealed drawings. However all engineered systems and/or structural components shall be sealed by the design engineer with calculations provided as required.

Arizona Law does have exceptions to licensing requirements. See ARS 32-144

Pre-engineered generic plans for swimming pools and aluminum awnings.

A set of plans may be brought to the Development Center and left for a cursory review of the design parameters and other design assumptions that show the basic design meets all building code requirements set forth for the City of Casa Grande for wind, seismic, soils bearing and other design requirements. If the submitted drawings meet these requirements we will keep the drawings as a file copy. When applying for a permit based on these drawings the applicant shall provide two copies of the plan cover/information sheets and all sheets applicable to this installation. These sheets must have the information, table & column, fasteners, and any other design information highlighted or otherwise marked showing all information needed to install the structure. These submittals for these projects will be processed as with any other permit.

The full set of the reference design drawings are NOT a “standard plan”. Rather, in this case, they are retained as a reference set for comparison of future submittals. This is to relieve the applicant from having to submit a full set of drawings with each permit.

Residential Plan Requirements

- 1) **Building Permit Application** that is completely filled out, including the Log-in Check List and any other required documentation and applications.
- 2) **Energy Code Compliance Documentation**
- 3) **Plot Plan: 2 sets.**
 - A) Lot dimensions.
 - B) Building footprint with all projections including overhangs & dimensions to all property lines and/or other buildings.
 - C) North arrow.
 - D) Building Setbacks, Easements, etc.
 - E) Sewer and water lateral locations from street to house.
 - F) Height of finished floor above the lowest top-of-curb or edge of pavement on the lot.
 - G) Location of any and all retaining walls, fences, accessory structures, etc. (which may require separate permits).
- 4) **Residential Building Plans; 2 sets that include:**
 - A) **Title Page including:**
 - i) Design Codes
 - ii) Building Occupancy classification(s)
 - iii) Building Construction Type
 - iv) Building square footage (List house, garage, porch, deck, etc. and total square footage)
 - v) Building height
 - vi) Fire Sprinklered / Unsprinklered
 - vii) Water Service information to include: number of meters, meter size(s), and service line size(s)
 - viii) Amp rating of electrical service
 - ix) Correct complete plan page index
 - x) List of any Special Inspections required.
 - B) **Foundation Plan:**
 - i) Soils report by an engineer. (If required)
 - ii) Structural and architectural details
 - iii) Footings, foundation, piers, and grade beam locations & sizes (engineered design if required)
 - iv) Reinforcing spacing and size
 - v) Anchor bolt spacing, type, and size
 - vi) Slab-on-grade details including post-tensioning cables, re-enforcing bars, WWF or fiber, etc.
 - C) **Floor Plan:**
 - i) Complete architectural plans, with full dimensions and notes
 - ii) Include all rooms, labeled as to their use with all window and door locations
 - iii) All wall-to-wall dimensions
 - iv) All room finished ceiling heights
 - v) All door and window sizes and operation on the plans (swing, slider, single hung, fixed etc.)
 - vi) Show all appliance locations and types along with SES, subpanel, and gas meter locations
 - D) **Exterior Elevations:**
 - i) Identify finish materials to be used
 - ii) All four elevation views including decks, porches, patio, slab-on-grade, etc.
 - iii) Indicate finish grade location at building exterior
 - E) **Structural and Architectural Details: (to include all applicable from following).**
 - i) Roof, to include eaves, overhangs, rake and gables
 - ii) Structural framing details. Including post and girder intersections
 - iii) Structural section with details at foundation, floor and roof levels
 - iv) Cross section view in each direction specific to the structure, generic not acceptable
 - v) Identify all materials, material sizes, spacing, etc.
 - F) **Prefabricated Roof and Floor Trusses provide** Manufacturer's Specifications, calculations, drawings, and installation instructions, Signed and Sealed by the PE that designed them
 - G) **HVAC Details:**
 - i) Location and size of HVAC equipment
 - ii) ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other *approved* heating and cooling calculation methodologies. Prior approvals for other than ACCA calculation are required.
 - H) **Plumbing Details:**
 - i) Provide a single-line riser diagram showing meter location, proposed piping runs, pipe sizes, valves, all plumbing fixtures and water heater locations
 - ii) Show all floor drain locations
 - I) **Gas Piping details**
 - i) Provide a single-line riser diagram showing meter location, proposed piping runs, pipe sizes, valves,

- regulators, supply pressure, equipment locations and demand factors
- ii) Show proposed piping runs on floor plans (and elevations if applicable)
- iii) Provide details to show exterior envelope penetrations and weather protection provisions
- J) **Electrical Details:**
 - i) Service meter location and main breaker size in amps
 - ii) Sub-panel locations(s)
 - iii) Detail intended locations of ground fault, arc-fault, smoke detectors, and equipment servicing outlets on the plans
 - iv) Show required exterior egress and equipment servicing lighting
 - v) Photovoltaic equipment, panels, etc. if installed. (See additional information in the Solar section below)
- K) **Stair Details:** (specific to the plan, not generic)
 - i) Stairway width, rise, run, landing length, and headroom height
 - ii) Handrail, guardrail, and baluster details
- L) **Solar Systems:** (PV and Water Heaters) See Solar System requirements below

Commercial Plan Requirements:

- 1) **Building Permit Application that is completely filled out, including the completeness checklist and any other required documentation and applications.**
- 2) **Energy Code Compliance Documentation**
- 3) **Commercial Building Plans (2 paper and 1 digital) that include:**
 - A) **Title Page: must contain all of the following information:**
 - i) Design Codes
 - ii) Building Occupancy classification(s)
 - iii) Building Construction Type
 - iv) Building square footage (gross and each individual occupancy classification)
 - v) Building height
 - vi) Occupant Load. (By each occupancy classification (room by room) and total load)
 - vii) Fire Sprinklered / Unsprinklered
 - viii) Allowable building area including area increases if used, with your calculations
 - ix) Water Service information to include: number of meters, meter size(s), and service line size(s).
 - x) Amp rating of electrical service
 - xi) Correct complete plan page index
 - xii) List all required Special Inspections per IBC Chapter 17 (There is another Special Inspections Document that provides the additional information required in Chapter 17)
 - B) **Site Plan:** (Copy of the Final Development Plan)
 - i) Lot dimensions
 - ii) Building footprint with all projections & dimensions to all property lines and/or other buildings
 - iii) North arrow
 - iv) Building Setbacks, Easements, etc.
 - v) All parking
 - C) **Foundation Plan:**
 - i) Footings, foundations, piers, and grade beams
 - ii) Post and girder intersections
 - iii) Include are required re-enforcing, bar sizes, clearances, support, etc.
 - D) **Floor Plans that must include:**
 - i) Complete architectural plans, fully dimensioned and labeled
 - ii) Exit plan for each level detailing exiting occupant load, exit path, travel distances, door types & swing, and total distance to the exit discharge
 - E) **Exterior Elevations:**
 - i) Identify finish materials to be used, flashing, supports, etc.
 - F) **Structural and Architectural Details:**
 - i) Structural design assumptions and any modifications/reductions taken including calculations
 - ii) Roof, to include eaves, overhangs, rake and gables
 - iii) Floor changes (i.e. slab-to-access floor)
 - iv) Handrails, guardrails, and support details
 - v) Structural framing details
 - vi) Fire walls, fire barriers, fire partitions, smoke walls/partitions, fire wall penetration assemblies, and head-of-wall assemblies. Include details showing the testing agency, listing number, and construction details for each assembly. (These may be on a separate detail sheet.)
 - vii) Suspended ceiling plan with support details
 - viii) Structural section with details at foundation, floor and roof levels

- ix) Typical cross section in each direction
- x) Detail the required special inspections per 2012 IBC Chapter 17. Provide third party testing agency information on the required separate forms.
- G) **Engineered structural system:** Provide manufacturer's Specifications, calculations, drawings and installation instructions for any Prefabricated Roof and Floor Trusses, pre-engineered structures or components - Signed and Sealed by the PE that designed them.
- H) **HVAC Plan to include all applicable:**
 - i) Location of HVAC Equipment
 - ii) Duct location and layout for supply and return air
 - iii) Smoke/fire damper locations
 - iv) Smoke detectors if required
 - v) Supply and return CFM's of all HVAC units
 - vi) IMC type of occupancy(s), number of occupants, and CFM's of ventilation and exhaust provided per IMC Chapters 4 and 5
 - vii) Gas line riser drawing, showing pipe sizes, gas pressure, developed lengths, etc., and including input rating in BTU's of all equipment
- I) **Plumbing Plan:** (to include the pipe sizes and proposed layout of all supply and drainage piping)
 - i) Show all water heaters
 - ii) Sewer connection location
 - iii) Grease, oil, sand interceptors and sizing calculations
 - iv) Location and type of back-flow prevention devices
 - v) Roof drains location, size and area served
 - vi) Riser diagrams
 - vii) Gas line riser drawing, showing pipe sizes, gas pressure, developed lengths, etc., and including input rating in BTU's of all equipment
- J) **Electrical Plan:**
 - i) Panel size(s) and location(s). Include a single line riser diagram with wire/conduit sizes
 - ii) Transformer locations and sizes
 - iii) Outlet layout and circuiting
 - iv) Lighting layout to include exit lighting, emergency lighting, switching layout, and circuiting
 - v) Detail locations of ground fault and arc-fault outlets on the plans
 - vi) Locations of telephone, data, fire-alarm, security, etc. outlets
- K) **Solar Systems (PV and Water Heaters):** See Solar System requirements below

Swimming Pool Plan Requirements

Include any notes or statements on the plan that clarify what work is to be included by the pool contractor and what work is to be included by the property owner or his authorized contractor.

- 1) **Permit Application that is completely filled out, including:**
 - A) Project address and occupant business name
 - B) Contractor's name, address, phone number, e-mail, and fax
 - C) Owner's name, address, phone number, e-mail, and fax
 - D) Specify a contact person: name, address, phone number, e-mail, and fax number
 - E) The estimated construction value of the project
- 2) **Energy Code Compliance Documentation for heated pools**
- 3) **Site Plan:**
 - A) Site street address, subdivision name, parcel number
 - B) Property lines, setbacks, easements, buffers, and any sanitary sewer or storm sewer pipes, drainage structures, or other facilities on the pool site
 - C) Locate all existing and proposed buildings, pools, or structures to include dimensioned footprints
 - D) Locate all pool equipment and utility connection locations to include at least the electrical, gas, and water
 - E) Locate and identify any existing or proposed walks, steps, elevated decks, and paved areas
 - F) Locate Construction Safety Barriers and Permanent Fencing
 - G) Location, height, and type of any site retaining walls, ancillary buildings, or other structures
 - H) Locations, sizes, and descriptions of all doors and windows opening into the pool area showing how they comply with code requirements to restrict pool access.
- 4) **Pool Plans; 2 sets that include:**
 - A) Basket Plan. This can be combined with "B" and "C" below
 - B) An overhead plan view showing the size and shape of the pool, location of all steps and ladders, skimmers, circulation inlets, drains, overflow drains, lights, diving boards, spas, water falls, slides, or other pool related features to be installed.
 - C) A side elevation plan view showing the pool's depth

- D) Provide construction details necessary to show APSP/NSPI compliance
- E) A listing of all equipment included in the pool's construction to include operating capacities, etc.
- F) If retaining walls or surcharge loaded pools are required by site conditions, two sets of professionally sealed engineered plans for each structure to be built must be included with the pool plan submission
- G) Include any notes or statements on the plan that clarify what work is to be included by the pool contractor and what work is to be included by the property owner

For above ground pools purchased as a "do-it-yourself" kit, the following information must be provided.

- A) Pool manufacturer's printed product literature
- B) Pool manufacturer's printed installation instructions
- C) Pool deck and access stair construction details

Solar System Plan Requirements

1) Solar Permit Application that is completely filled out, including:

- A) Project address, Subdivision Name, and Parcel Number
- B) Contractor's name, address, phone number, e-mail, and fax
- C) Owner's name, address, phone number, e-mail, and fax
- D) Specify a contact person: name, address, phone number, e-mail, and fax
- E) If involved, the designer's, architect's, and/or engineer's name, address, phone number, e-mail, and fax
- F) Total Square Footage and construction cost of system

2) Plot Plan: 2 sets.

- A) Lot dimensions
- B) Building footprint with all projections including overhangs & dimensions to all property lines and/or other buildings
- C) North arrow
- D) Building Setbacks, Easements, etc.
- E) Location of solar system
- F) Height of system from grade, if ground mounted

3) Photovoltaic Systems: 2 sets that include:

A) Foundation Plan:

- i) Soils report by an engineer (If required)
- ii) Structural details
- iii) Footings, foundation, piers, and grade beam locations & sizes (engineered design if required)
- iv) Reinforcing spacing and size
- v) Anchor bolt spacing, type, and size
- vi) Structural details of the roof panel mounts. (engineered design if required)
- vii) Flashing details for mounting brackets

B) Solar Panel Lay-out Plan:

- i) Complete plans, with full dimensions and notes
- ii) All array to array dimensions
- iii) All wiring on one- and three-line electrical diagrams
- iv) Wiring protection, junction boxes, combiner boxes, disconnects, etc. (Proper equipment for WET locations)
- v) Show the locations of the conduit and other circuiting.
- vi) Show the required access paths between and around panels

C) Exterior Elevations:

- i) Identify roof pitch, orientation, and panel location(s) and pitch
- ii) Show ground mount orientation and panel pitch
- iii) Indicate finish grade.

D) Structural Details: (engineered design if required)

- i) Roof details. If roof mounted and include any roof framing modifications
- ii) Structural framing details. Show racks, mounts, and, if ground mounted, all framing details
- iii) Structural section with details at foundation, grade, and roof levels. As required
- iv) Identify all materials, material sizes, spacing, etc.
- v) Provide a Registered Design Professional's sealed structural design, required if any "NO" answer to the following questions.

a) Is the PV system to be installed on a roof that meets current code?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b) Is the roofing lightweight (composition) type?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c) If composition type roof, does the roof have only one layer?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d) Is the weight on each attachment point 45 pounds or less?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e) Does the solar array have a total distributed weight of 5 lbs/ft ² or less?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

E) Manufacturer's Specifications and installation instructions: complete and specific to the equipment installed.

- F) **Electrical Details:**
 - i) Service meter location and main breaker size in amps
 - ii) Sub-panel, disconnect, fuses or breakers, arc-fault protection (if required), and meter locations(s)
 - iii) Detail locations of grounding equipment conductor, bounding, and all grounding
 - iv) Show locations and protection of all wiring as required
 - v) Show required exterior egress, roof access, and Fire Department Access
 - vi) Show all labeling - must meet all code requirements
- 4) **Solar Water Heater Plans: 2 sets that include:**
 - A) **Structural Plan:**
 - i) Structural details
 - ii) Structural details of the roof panel mounts
(Engineered design if required – See “D” in PV Systems above)
 - B) **Solar Panel Lay-out Plan:**
 - i) Complete plans, with full dimensions and notes
 - ii) Panel to panel dimensions including exterior egress, roof access, and Fire Department Access
 - iii) All piping diagrams
 - C) **Exterior Elevations:**
 - i) Identify roof pitch, orientation, and panel location(s) and pitch.
 - ii) Show ground mount orientation and panel pitch
 - iii) Indicate finish grade
 - D) **Structural Details:**
 - i) Roof details: if roof mounted and include any roof framing modifications
 - ii) Structural framing details: Show racks, mounts, and, if ground mounted, all framing details (engineered design if required – See “D” in PV Systems above)
 - iii) Structural section with details at foundation, grade, and roof levels as required
 - iv) Identify all materials, material sizes, spacing, etc.
 - E) **Manufacturer’s Specifications and installation instructions:** complete and specific to the equipment to be installed
 - F) **Electrical Details:**
 - i) Panel, disconnect, pump, and other equipment locations(s)
 - G) **Plumbing Plan:** (to include the pipe sizes and proposed layout of all supply and drainage piping)
 - i) Show all water heaters and storage tanks
 - ii) Water connection, drain location and riser diagrams

Fire Alarm and Fire Sprinkler System Plan Requirements

While the detailed plans for these systems are usually deferred some minimum information is required on the building plan set. Such as the location of:

- i. the fire riser room
- ii. the fire alarm panel(s)